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AUTHOR Grad, Marcia; Shapero, Albert
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ABSTRACT

The topical papers on entrepreneurial education presented at the Conference on Research and Education in Entrepreneurship at Baylor University in March 1980 were analyzed and policy options were developed. A review of the conference materials concentrated on identifying the key questions to be answered when establishing entrepreneurship policy and identifying implementation priorities. The key policy questions asked were concerned with the effect of governmental policies and actions on stimulating entrepreneurship, the levels and sectors of education that should receive government emphasis, development of educational materials and approaches that address the affective rather than the cognitive, and areas of research, including development of a database, entrepreneurial educational research, and research on entrepreneurship and small business. Criteria were then determined to include or exclude specific policy options. The following policy options for university activities were suggested: providing research support; providing fellowships for doctoral and postdoctoral students; providing systematic support for professional society activities, journals, and special awards for entrepreneurial research; developing a research and education clearinghouse; increasing small business consulting; creating visiting consultancies; and providing improved continuing education. Policy options for secondary and career education included developing concepts of entrepreneurship role models, extracurricular activity, curriculum, and a national project. (YLB)

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FEDERAL AND STATE POLICIES FOR ENTREPRENEURSHIP EDUCATION

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Prepared for

Office of Advocacy
Small Business Administration
1441 L Street, N.W.
Washington, D.C. 20416

Prepared by

Marcia Grad
Albert Shapero

M.L. Grad Consultants
3930 North Pine Grove Avenue
Chicago, Illinois 60613

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PREFACE

This project has been conducted under Purchase Order No. SBA-80-2903 from the Small Business Administration. The purpose of the effort has been to analyze the topical papers on entrepreneurial education presented at the Conference on Research and Education in Entrepreneurship at Baylor University in March 1980. Upon completion of that review, policy options were developed to assist federal policy makers in complying with the White House Conference on Small Business recommendations.

More specifically, the following tasks have been performed:

- Review the papers developed for the Conference on Research and Education in Entrepreneurship conducted by Baylor University
- Develop policy options for federal program policy makers who are concerned with research and education in entrepreneurship
- Review policy options with appropriate Small Business Administration personnel
- Develop a report containing the results of the foregoing review and analysis.

INTRODUCTION

Implicit in the mission of the Small Business Administration (SBA), is an interest in enhancing and expanding entrepreneurship education in the United States. To facilitate development of an entrepreneurship education policy, the Office of Advocacy of the SBA participated in a Conference on Research and Education in Entrepreneurship conducted by Baylor University on 24-25 March 1980. The "Baylor Conference" brought together leading scholars and university entrepreneurship teachers from the United States and Canada, and it resulted in published proceedings that provide a body of material regarding entrepreneurship education/research which is rich and unique. Furthermore, it was held at an opportune point in time to develop policy options for entrepreneurship education; that is, it took place after the White House Conference on Small Business and during a period of increasing emphasis on stimulating entrepreneurial activity as part of economic development efforts at the national, state and local levels.

Consequently, the Office of Advocacy commissioned a review of the Baylor Conference proceedings to elicit answers to key policy planning questions and to suggest policy directions resulting in exemplar policy options for entrepreneurship education.

Before addressing the policy planning and options issues with which this document is directly concerned, two other issues must be dealt with:

- The selection of a definition of entrepreneurship for use in this document

- Our position on the perceived linkage between innovation and entrepreneurship

Both issues were discussed at length during the conference and are germane to policy development to the extent that the authors must select one definition and take a position on the relationship between innovation and entrepreneurship. Having done so, we can proceed to policy considerations, development and options.

Definitions of Entrepreneurship

Discussions at the Baylor Conference reflected a continuing, long-term discussion as to what is meant by entrepreneurship, entrepreneur and entrepreneurial. The terms are widely used both popularly and by scholars, but there is very little agreement, particularly among the scholars, as to who is an entrepreneuer and what is meant by entrepreneurship. From a policy viewpoint it is vital to select definitions that will enable the development of coherent and cohesive programs and options. This must be done in order to avoid a very real confusion among policy makers, educators and among those identified as the target populations of both policies and education.

Conference discussants advanced a very wide spectrum of definitions, explicitly and implicitly held in the field, and there was much discussion about the problem of definition. One participant suggested:

> To achieve coherence it is necessary to sort out the many, varied conceptionalizations of the terms....It is not necessary to achieve consensus, but it is necessary that we know where and how we differ for meaningful exchange.... (Shapero).

The definitions discussed during the Conference include:

- We still have....no standard definition of entrepreneurship. Cole described it as purposeful activity to initiate, maintain and develop a profit-oriented business. Modifying this slightly to purposeful and successful.... yields a working definition that suits me well enough and....would seem implicitly to incorporate Schumpeter's sweeping innovative principle as well.... (Livesay)

- The entrepreneur is not identified by formal rank or title, but retrospectively as a result of his having successfully practiced the dynamic function of innovation.... (Martin)

- A person is not an entrepreneur because he owns the enterprise or because he gives the orders....although he may do all these things....
  A person is not an entrepreneur just because he assumes the risk of his capital; that only makes him an investor....
  He is not an entrepreneur even if he is creative in the literary, artistic, or dramatic sense. The entrepreneur may be all these things, but he innovates not by creating ideas, but by recognizing their value and by placing them in the way of being exploited.... (Martin)

- Thus, in reviewing the current state of knowledge about the psychology of the entrepreneur, it should be noted that a well defined population does not exist and research findings are often difficult to compare.... (Brockhaus)

- Formalized internal entrepreneurial activities are those which receive explicit organizational sanction and resource commitments for the purpose of innovative endeavors.... (Schollhammer).

Attempting to find a definition that would encompass the one-time entrepreneur, the part-time entrepreneur, the hawker, the promoter, the intraorganizational entrepreneur as well as entrepreneurial activities in the civic sector and in countries with planned economies, one discussant presented a definition of the entrepreneurial event as being denoted by initiative taking, bringing together resources, direct management, relative

autonomy to dispose and distribute resources and risk-taking tied to the success or failure of the venture.... (Shapero).

Focusing on the roles of entrepreneur and entrepreneurship in contemporary growth theory with a primary focus on macroeconomic theory, Kent quoted Higgins (1968) on the entrepreneur as the key figure in the process of economic development:

> He is the man who sees the opportunity for introducing the new commodity, technique, raw material or machine, and brings together the necessary capital, management, labor and materials to do it. He may not be, and historically has usually not been, a scientific inventor. His skills are less scientific than organizational. His skills are also different from those of a salaried manager, who takes over an enterprise after it has been launched. In any society, the rate of technological progress, and so of economic development, depends greatly on the number and the ability of entrepreneurs available to it.

Despite the value of many of the definitions advanced, from the viewpoint of broad federal educational policy the simplest, most broadly applicable definition that avoids confusion with other ongoing educational activities in the area of corporate management and public administration as well as activities concerned with innovation that are encompassed in engineering provides the most useful basis for educational policy. Consequently, the definition selected for use in policy development is that of the historians, only modified to avoid inclusion of aspects of the management of large, corporate entities:

> <u>Purposeful activity to initiate, maintain and develop a profit-oriented business; particularly in its early formative years.</u>

This definition is used as the basis for the policy discussion following; it is one that avoids inclusion of educational functions and materials that are widely established today. Thus, the definition is one that is constrained to new company startups and small, young companies. The preponderance of business courses and materials are concerned with the management of ongoing businesses, particularly large and medium sized ones. There appears to be little to gain as well as a possibility of creating much disruption by making an effort to transform well established programs currently offered. Though a case is easily made for the need for entrepreneurship in the large business and government bureaucracies, there is a far greater opportunity for large payouts with much less effort in the area of company startups and small, young companies -- an educational area that is very undeveloped.

Perceived Linkage Between Innovation and Entrepreneurship

Much of the current government interest in entrepreneurship has been linked to a felt need for more technological innovation. Consequently, there has been an emphasis on encouraging what might be termed high-technology entrepreneurship; the formation and development of companies devoted to advanced technology products and services in fields of special national interest. Examples of federal programs focusing on innovation and entrepreneurship are the National Science Foundation's Small Business Innovation Research Program and the Department of Energy's Energy-Related Inventions Program.

A serious policy issue is raised by linking entrepreneurship with technological innovation because high technology companies, let alone

startups, are only a very small fraction of the more than 14,000,000 businesses in the United States. Are we to concentrate on such entrepreneurship to the exclusion or denigration of all the other kinds of products and services that make up the economy?

From a policy perspective it is important to establish a position on innovation that is compatible with the over-all purposes of entrepreneurship education. Three conference papers were devoted to questions concerning innovation:

- A discussion of improving entrepreneurial innovation-yield (Krasner)
- A description of the Utah Innovation Center efforts to develop innovations and new enterprises based on such innovations (Brown)
- A discussion of the non-corporate innovation process without reference to entrepreneurship (Udell). All three papers focused on technical innovation, without discussing the broader impacts of innovation policy on policies for entrepreneurship education/development.

The discussions of entrepreneurship in economic theory provided more input to the general question of entrepreneurship and innovation. The Higgins definition of entrepreneurship noted previously discriminates between inventor/scientist and entrepreneur. Udell, in his discussion of entrepreneurship in the less developed world, discusses Schumpeter's view of innovation (1934, 1939) at length pointing out that to Schumpeter innovation had a very broad definition which included new goods, new methods of production, new markets, new sources of supply and new organizational forms. Kirzner commented:

> ...Schumpeter's entrepreneur is disruptive; he disrupts the existing equilibrium....If the economist is talking about entrepreneurship he is talking about that analytical facet of behavior which cannot coexist with equilibrium....

The implications of both Udell's and Kirzner's comments are that the entrepreneur, by the very act of starting a new venture (a disequilibrium by definition) is innovating. This is also pointed out by Shapero:

> ...the entrepreneurial event itself is the innovation, and there is no necessity to tie the event to new technology.

From an educational policy viewpoint, conference discussions suggest that entrepreneurship education policy should not be focused on technology per se, but should assume that all new ventures are innovations in themselves. Of course, where entrepreneurship education is linked with engineering and science schools there is a logical relationship between technology and entrepreneurship and it makes sense to focus on it.

Authors' Approach

The approach taken by Grad and Shapero has been to review the Baylor Conference materials to answer two questions:

- What key questions should be answered when establishing entrepreneurship policy and identifying implementation priorities?
- What criteria should be used to include or exclude specific policy options?

The first question is addressed in the next section of this report and both criteria as well as policy options are presented in the final section of the report.

CONSIDERATIONS IN DEVELOPING ENTREPRENEURSHIP EDUCATION POLICY

The key policy questions asked are concerned with the fundamental and overriding issue of determining where emphasis should be concentrated. Resources are ever limited, and promise to be even more limited in the near future. Consequently, it is critical that policy makers first answer questions that relate to where policy can have the greatest payoff in terms of leveraging the effects of government efforts. The key questions that guided the authors include:

- Can government policies and actions effectively stimulate a measurable increase in entrepreneurship in the United States?
- Where should government emphasis be placed in terms of level and sector of education in order to obtain the most effective elicitation of entrepreneurship in our country over time?
- Which aspects of formal education, such as teaching approach and materials, should be emphasized to obtain greatest overall effect in eliciting entrepreneurship?
- What areas of research and what research questions are most in need of exploration from the viewpoint of entrepreneurship education in the United States?

When these questions have been considered, it is possible to develop and implement a policy for entrepreneurship education; policy options are presented in the last section of this report.

Effect of Government Policies and Actions

There was substantial agreement among Baylor conferees that government policy and actions can have significant impact on stimulating entrepreneurship in the United States. At the same time, there was disagreement over the means to be used by the government. Only one or two speculative

comments were made on whether government intervention via assistance programs inadvertently helped keep incompetent entrepreneurs afloat.

There was virtual unanimity that education was an effective means to stimulate entrepreneurship although there was some disagreement as to the nature of entrepreneurs (i.e., are they "born" or developed) which muddied the issue of where the emphasis should be placed in implementing entrepreneurial education efforts. Differences surfaced during discussions related to goals of educational programs at different levels of schooling and when considering whether greater emphasis should be placed on the affective or cognitive aspects of education.

Establishing Intervention Priorities

It is suggested that government policy and actions emphasize the following levels and sectors within the education system which are listed below in descending order of priority:

- University education
- Secondary education
- Continuing education for working professionals and small businessmen
- Career education
- Programs for displaced people and retirees.

Although some of these issues were not directly addressed by conferees, the authors have drawn conclusions based on the materials presented at the conference.

The University: Maximum Leverage for the Long Run. Policy should focus on the university in preference to other levels and sectors of education for many reasons. Most importantly universities provide the

education for many reasons. Most importantly universities provide the most effective means for achieving the most profound and widespread effects, in the long run, when any level of resources are applied. Furthermore, universities have a virtual monopoly on the preparation of professionals who conduct education at all levels (e.g. teachers, and educational administrators), professionals who influence public opinion (e.g. media professionals, publishers), policy makers (e.g. elected officials and administrators at every level), and potential entrepreneurs (e.g. engineers, scientists, business administrators). And professional values and outlooks are often formed and transformed in universities. Finally perceptions of the value of entrepreneurship as a personal goal, as a desirable goal for others, as a desirable social institution are seriously affected just before the professional enters his career, thus influencing the part entrepreneurship might play in his career.

Universities are also desirable prime targets for government policies and actions concerned with entrepreneurship education for very pragmatic reasons:

- There is a limited number of universities/colleges, and they are well distributed throughout the country, making it relatively easy to affect a wide distribution of regions and areas with a relatively limited number of programs,

- Universities have fairly similar organizational and value systems making it possible to affect a large number of them with a limited variety of programs,

- Universities are essentially the only institutions that perform research on entrepreneurship and small business, and it is important, therefore, to encourage and enhance their continuing participation in developing data useful to eliciting and enhancing new and small businesses,

- Universities are dependent on public funding, and are consequently relatively responsive to policy actions and initiatives from the government.

That there is a need for action at the university level was pointed out in many ways at the conference. Though there has been an increase in course offerings in the area of entrepreneurship, the number of courses offered across the country is limited as are the venues offering such courses within the university as indicated by the following:

> There have long been a few schools offering courses on how to enter independent business. Over the past decade the small number of such schools has increased by an order of magnitude, from around a dozen to over 130....Most of this increase has been in four-year schools of business administration ....some schools of engineering, some two-year colleges....118 business schools and 28 engineering schools.... (Vesper).

Where entrepreneurship courses are offered they usually are not considered to be an integral part of college or department offerings. Comments were made on the universities' resistance to adding entrepreneurship courses (Vesper), and questions were raised about the way in which the universities, particularly business schools:

> ....convey the idea that small business is not a desirable place to be ("a Mom and Pop business"), and that, furthermore, it is unfeasible since it is doomed to failure.... (Shapero).

A major discussion point among academics teaching courses in entrepreneurship and/or small business is that the courses are popular among students, but are not considered academically respectable among faculty. As one discussant put it, "I can guarantee a job to a doctoral graduate in the field, but I can also guarantee that he/she will not get promoted."

Within a university, areas that should receive attention from policy makers include not only those such as the colleges of business administration, management departments and the schools of engineering, but also the colleges of education whose graduates will subsequently impact on education at all levels. It should also be pointed out that small business course equivalents occasionally are found in schools of agriculture and that a variety of courses given in professional schools are concerned with the operation of a professional practice as a business (e.g. industrial design, architecture, law, pharmacy, dentistry, veterinary science). It is suggested here that while policy should include provisions for responding to demand in the latter cases, it should concentrate on impacting the schools of education, business administration and engineering for the greatest long-term leverage.

Secondary Education. The overall goal of entrepreneurship education is to establish the value of entrepreneurship to the nation. In order to do so, it is important to reach both students and teachers, via affective as well as cognitive means. Teachers, of course, may be reached via university college courses. Students may be reached at any time in their formal or informal education. However, reaching them during their compulsory education when they are formulating their career decisions, exploring career options and seeking information to answer career related questions, may well be the most effective time.

Objectives associated with the foregoing goal which may be achieved at the secondary level are:

- To establish the viability of entrepreneurship as a career option

- To approach entrepreneurship education in an affective mode by exposing potential entrepreneurs to role models and entrepreneurial situations
- To raise the level of awareness of students and teachers as to how individuals participate in the business community and the impact of their participation
- To provide objective information on the skills, training, benefits and liabilities of an entrepreneurial career.

Given the increasing emphasis on state control of resources, this may be an opportune moment for the state boards of education to initiate entrepreneurship activities in order to achieve the above objectives.

Continuing Education for Working Professionals and Small Businessmen. Working professionals such as engineers, scientists, managers, marketing specialists, accountants, and computer specialists, are prime sources of new, innovative businesses. Entrepreneurship education, aimed specifically at working professionals, has a higher probability than perhaps any other facet of entrepreneurship education of resulting in the formation of new, desirable companies in the short term. Cooper observed that such programs have demonstrated results in terms of company formations.

Programs aimed at working professionals are particularly attractive since they dovetail with national policies designed to encourage technical innovations relevant to national security, energy, pollution control, etc. Policy and activities aimed at entrepreneurial education for professionals, particularly technical professionals, meet many criteria of desirability in terms of "fit" with other national policies, cost-effectiveness, and "fit" with existing institutions and institutional arrangements (i.e. continuing education). The NSF Innovation Centers Program is one form of federal effort directed toward encouraging technical professionals to form

new ventures. Though primarily aimed at matriculated students, in the formal sense, the centers have also attracted working professionals.

It is variously estimated that there are something between 500,000 and 1,000,000 new ventures formed in the United States in any single year. Whatever the formation rate and failure rate (figures which are virtually unknown), we do know that there was a net addition of 2,563,000 businesses to the national inventory of businesses between 1965 and 1975 according to the Internal Revenue Service (1979 Statistical Abstract of the United States). Available historical evidence suggests that the great majority of persons forming companies (non-technical in particular) have little formal business education and, as a consequence, are often less capable of surviving or achieving either the effectiveness or growth of which they are capable.

Though there is a wide spectrum of courses offered by high school continuing education programs, university, college and community college extension programs, the SBA, Chambers of Commerce, and private profit making organizations, there is still a real need for a cohesive policy and systematic action aimed at assuring wider coverage, upgrading offerings, and development of innovative delivery means that will make appropriate materials more readily available to and used by the target population.

Career Education. Career education would also be fertile ground for policy makers to till because it involves multiple education levels (e.g., kindergarten through postgraduate), multiple community segments (e.g., education, business, labor industry, government) and because it intends to impact on all students through courses. Thus, it leverages existing personnel and courses and has the potential to affect students throughout

their educational experience and, perhaps, into their working experience as well.

In general career education is defined as any effort that will help individuals "acquire and utilize the knowledge, skills, and attitudes necessary for each to make work a meaningful, productive, and satisfying part of his or her way of living (A Primer for Career Education). Thus, career education focuses on teaching students to change (i.e., adapt) by providing them with solid academic, skills, decision-making, job-seeking/getting/holding skills, good work habits and meaningful work values.

Although the topic of career education was not directly addressed by conferees, it is clear that entrepreneurship education policy/activities should be disseminated to and considered by appropriate career education personnel. Entrepreneurship and small business activities have been consistently bypassed in the educational system (as noted frequently during the conference) and one means of exposing students to the potential of an entrepreneurial career and others to the benefits derived from entrepreneurship would be to include such information in career education policy/activities. Specific recommendations for doing so are presented in the last section of this report.

Displaced Individuals: Fertile populations for entrepreneurship. Government, at every level, has always taken a direct interest in providing help to citizens suffering the effects of natural disasters, large layoffs, plant closings, military base closings and other major displacing events. Entrepreneurial education aimed at those suffering from major displacing events provides those displaced with a positive, constructive means for responding to displacement, has a high probability of resulting

in the new company formations, and dovetails well with other government objectives and programs.

Studies of the company formation process strongly suggest that displacement, particularly negative displacement, triggers a large percentage, if not a majority, of entrepreneurial actions. Becoming a political or religious refugee, getting laid off, and/or experiencing undesired organizational changes, job frustration and job dissatisfaction all rank high among the events cited by successful entrepreneurs as leading to the formation of their companies:

> • ....refugees are highly identified with new company formations. Each wave of political refugees has produced its own special history of company formations in the country to which they fled...by 1972, thirteen years after they started coming out of Cuba, the Cubans....were responsible for 4,664 existing companies, 1,266 of which had paid employees... In studies of 109 company formations in Austin, Texas (technical companies, accounting firms, publishing firms etc.), it was found that 65 percent of the influences leading to startup were classified as negative... "getting fired," "boss sold the company," "being transferred" .... (Shapero)
>
> • ....research strongly suggests that dissatisfaction with previous work experiences is closely related to the entrepren eurial decision. Moreover, the person who is unemployed is more likely to decide to start a business than if he was employed .... (Brockhaus).

Though a limited number of displaced persons may form companies, those numbers can be significantly enhanced by programs designed to inform and educate those displaced on the feasibility and desirability of forming companies and by programs designed to galvanize the necessary supporting resources and information.

In many cases, displacement can be seen coming as in the instances of obsolescing plants and industries. National and regional, corporate

and union programs aimed at encouraging company formations among those affected can be initiated in advance of the displacing event, thus, making the event less calamitous and potentially even positive from a personal and social viewpoint. That such a policy can be effective is demonstrated by historical evidence of the subsequent formation and reformation of companies in the aftermath of major disasters (Shapero).

Other special forms of displacement include retirement, and, in the case of women, widowhood and divorce; these events generate populations that are potential company formers. A fairly substantial number of companies have been formed by retirees, and significant numbers of women entrepreneurs began their companies after they had been displaced (Shapero). Again, these are areas that are providing opportunities for enhancing the number of company formations, while at the same time responding to nationally identified areas of human need.

Approach to Entrepreneurship Education: Affective vs. Cognitive [1]

Perhaps the greatest need at all levels of education is to develop materials and approaches that address the affective rather than the cognitive:

> The particular action taken by an individual in a major shift from one life path to another is a product of... situation and of socially and culturally implanted predispositions. Another way to put it...: an individual's perception of what he/she might do is a resultant of perceptions of desirability and feasibility ...Of course, they are not completely separable for what we

---

[1] Affective is defined as: pertaining to or resulting from emotions rather than from thought. Cognitive is defined as: the mental process by which knowledge is acquired through perception, reasoning or intuition.

> consider feasible may influence our decisions of what is desirable....(Shapero).

Values and perceptions of desirability are central in the formation of expectations and predispositions, thus:

> ...a culture or social system that places a high value on the formation of new ventures of all kinds will eventuate in more individuals choosing to form new ventures when the situation leads to a new life path...a culture or social system that places a high value on such behaviors as innovation, initiative-taking, risk-taking and the achievement of independence is more likely to eventuate a higher formation rate of entrepreneurial events than one that does not...what affects concepts of the desirable... that leads to company formation... families, peer groups, ethnic identities, educational and work experiences.... (Shapero)

The early educational experience is one that is common to practically all who grow up in the United States, and plays one of the critical roles in determining values, expectations and perceptions of desirability. Further, the educational process is not only the subject of this discussion, but it is also the one major influence amenable to "policy" and "policy actions."

With little exception, educational practice at all levels is predominantly concerned with the transmission of cognitive knowledge and skills to students. Case studies, the development of business plans, exercises and testing on such subjects as marketing for the small business, cash-flow preparation, financial analysis and production planning typically make up the bulk of classroom and homework activities. As a consequence, the materials available for the cognitive aspects of entrepreneurial education are voluminous, in many forms (i.e., textbooks, booklets, workbooks, audio-visuals including videotapes, cassettes, and film), and are being produced at an increasing rate.

There is a significant gap in pedagogical consideration of materials covering the affective aspects of education. This gap is particularly noticeable in view of the importance of the affective component in entrepreneurship. There is strong evidence to suggest that the decision to undertake an entrepreneurial venture is dominated by the affective or emotional; by the individual's perceptions of the desirability and feasibility of the entrepreneurial act. Though gaining cognitive skills help make an individual more confident, and thus the act more feasible, it is much more likely that his perception of the desirability of venturing entrepreneurially is dominated by the development of affective elements. Once the affective aspects of the educational process have been successful, it is far easier to achieve the cognitive.

Despite some survey results which indicate that a large percentage of high school students would like to be independent, few have any expectations of becoming entrepreneurs. A national profile of college freshmen characteristics and attitudes based on responses of 187,000 entering freshmen in the fall of 1980 found that only 2.6% of the respondents indicated that they expected to be "business proprietors" (and this must include those that expected to enter family-owned businesses instead of undertaking entrepreneurial ventures of their own).

The data reported by this survey of freshmen suggests that despite a popular cultural bias for "independence" and "being on one's own," somewhere between the grades K and 12 the vast majority of students become convinced that their future lies in being employed by others. The Astin survey data show an additional 1.2% indicating they expect to be "farmers and ranchers" which might be added to some fraction of those indicating

the health and legal professions to come up with a larger but still very small percentage opting for potentially entrepreneurial pursuit.[2]

It may be speculated that there is a significant difference between those going on to college and those who do not, which would explain the survey data reported above. However, the data do not support that widely held belief:

> A common stereotyped belief about entrepreneurs is that they are relatively less educated than the general population. Many of the better known books on entrepreneurship and small business management refer to the low educational level of the entrepreneur...A recent study by Douglass (1976), comparisons with earlier studies and with census data revealed that entrepreneurs have more education than the general population, and that the gap is increasing. Thus, statements about the lower educated entrepreneur hardly seem justified. (Gasse)

A special case was made by several of the conferees for a far greater inclusion of business history, including entrepreneurial history, in the business college curriculum (Livesay, Martin, Hornaday). Attention to the affective aspects of educational approaches and materials is needed at every level with regard to entrepreneurship. Educational policy related to entrepreneurship should, therefore, be focused on developing understanding, approaches and materials concerned with affective elements in a systematic way.

Research Needed

Development of Data Base. Though it is a cliche to say that more research is needed, in the case of entrepreneurship and small business, the need is clearly demonstrable.

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[2] Astin, Alexander, W., "The American Freshman: National Norms for Fall, 1980," American Council on Education and University of California at Los Angeles, 1981

Perhaps the most pervasive message to come out of the Baylor Conference was the need for improved data collection on the part of federal, state and local authorities with regard to the establishment of data bases concerned with new enterprise formation, enterprise failure, and the performance of small businesses. If policy, in the long run, is to be based on fact rather than mythology and if entrepreneurial education is to be built upon reality rather than fantasy, there is a need for research at every level. In turn, research, even just counting accurately, depends upon a continuing, broad collection of relevant data for use by all. It is becoming increasingly cumbersome and dysfunctional to depend on a hit-and-miss data base that already has been the source of inaccuracies in many of the textbooks used for courses in small business and entrepreneurship.

There is an almost desperate need for the establishment of good data bases concerning such fundamental matters as the following:

- The absolute numbers of small businesses in total, by category, by region
- The formation rates of new companies in total by year, by type, by region
- Failure rates: totals, by age of company, by type, by region, by reason
- Ownership: by age, sex, ethnic group, etc.
- Performance of small business: overall, by type, by age, by ownership characteristics, by region.

Many Baylor Conference participants pointed to the need for more comprehensive data collection efforts than is afforded by the scattering of small studies conducted here and there throughout the country. The point made both explicitly and implicitly by conferee after conferee.

- What is needed is a comprehensive longitudinal study of a comparative nature...(following several suggestions of how to carry out such a study)...This macro approach to data gathering would allow other than psychological variables to be considered in a statistical analysis of the factors associated with the entrepreneurial decision and with the frequency of success. Moreover, a large random sample of new entrepreneurs collected nationwide would allow the data to be categorized in many ways for comparison basis, and still have subsets of significant sizes for statistical interpretation.... (Brockhaus).

- The third observation deals with the absence of data describing the functioning of the risk capital markets...Innovation is a sloppy process and, until better data bases are available, risk capital research will be a sloppy... process.... (Wetzel).

- A major deficiency in research on small-business finance has been the absence of good, reliable data with which to do systematic studies rather than episodic, point-in-time studies.... (Brophy).

- ...there is an urgent need for the development of a data base and efforts being made in that direction.... (Longenecker).

- There should be a strong effort to establish and maintain a National Data Base on Entrepreneurial Research, structured to locate, integrate and retrieve through any of a multiple of search logics and information networks.... (Krasner).

- A more directed, comprehensive effort is needed on the part of federal, state, and local governments in recordkeeping and providing statistics regarding entrepreneurial activity.... (Bruno and Tyebjee).

Any policy for entrepreneurial education must include a policy with regard to improving the data bases relevant to entrepreneurship and small business.

Entrepreneurially-Oriented Educational Research. Though there has been a significant growth in entrepreneurially-oriented educational offerings in universities and at every level of continuing education, little is known in a systematic way about the efficacy of different approaches, materials or

methods used. There is even a problem of measurement in terms of what might be considered the 'successful outcome' of entrepreneurial education. Is it the number of companies formed by the students following, and as a direct result of, their participation in the course? Or is it some longer term measure of entrepreneurial behavior? Is the objective of entrepreneurial education to "count coup" by the number of new companies attributable to the courses offered or by making a large number of individuals feel "free to enterprise" at any time because of the objective and cognitive change effected by their education? With regard to the latter question there is some controversy among those teaching at the university level about the propriety of "precipitating" students, who may have taken an elective course in entrepreneurship for any number of reasons, into an entrepreneurial venture before they may be ready.

There is a serious and immediate need for research to determine what is effective in entrepreneurship education at all educational levels. This research must address questions of acceptable measures of effectiveness, pedagogic approaches, curriculum content, educational materials, characteristics of entrepreneurs as well as other topics noted by conferees:

- A major question to be addressed is whether entrepreneurial characteristics, once identified, can be taught? Can students be trained and, in addition, be inspired to undertake the difficult and challenging task of starting a business? What role can living entrepreneurs (successful and unsuccessful) play in the training and inspiring? Can we utilize them as role models for students and entrepreneur practitioners who are just starting out? (Hornaday)

- The studies that have been done in this area (education research), with the exception of McClelland's work, have been little more than casually reported. They are interesting and popularly appealing, but the field needs more systematic, quantitative studies

designed in as rigorous a manner as possible. Studies are needed to determine: (1) the effectiveness of specific functions in the curriculum (e.g., What is the best way to teach a procedure for writing a business plan so that the principles can be applied to a wide variety of circumstances and still achieve in all cases the several objectives of the business plan?), (2) the perceived and objectively measured effectiveness of individual courses and series of courses offered by colleges and by commercial organizations, and (3) the true nature of the effect of training and education so that we will better understand what is crucial within the personality of the potential entrepreneur that increases his probability of success. (Hornaday)

- What is the effect of business school education on entrepreneurship? Does it convey the idea that small business is not a desirable place to be ("a Mom and Pop business"), and, furthermore, it is unfeasible since it is doomed to failure? Is a business school education, particularly a "good" one from a major business school associated with a decrease in the probability that its product will start a business? (Shapero)

Several very specific educational research questions were raised by Vesper at the conference concerning course evaluation criteria, teaching objectives, the variables to be considered in course "experimentation," and the number and level of courses offered. Among evaluation criteria used currently are the following:

- Alumni comments after some years
- Informal feedback from students
- Enrollment demand
- Formal course ratings by students
- Number of student companies started
- Comments from industry observers
- Examination results.

Some instructors feel that such courses cannot be evaluated. However, explicitly or implicitly all educational offerings are evaluated, and

there is a need for research to resolve questions in evaluation. Among evaluation variables metioned by Vesper were six that he felt can be controlled by schools: students, teachers, materials used in the course, (such as readings and exercises) types of projects undertaken and course support.

Several subareas of educational research must be considered as well. One significant area already being researched is that concerned with financing new and small ventures. The data produced to date strongly indicate a great deal of variation between regions, cities, banks and individual loan officers when presented with the same loan situation; this indicates two things: 1) a lack of common knowledge base, one function of education, and 2) a lack of the research required for the development of educational materials that would reflect a common knowledge base. In the case of financial materials, the research would be relevant to the general educational offerings in finance courses at the university level, but it is also of significance to the banking community which supports special banking schools, institutes and continuing education courses for bankers.

Research on Entrepreneurship and Small Business. Since there has been so little support for or academic interest in entrepreneurship and small business to date, there is very little information available in terms of research and data in these subject areas. Many educational questions must go begging due to the lack of a systematic body of knowledge that can be applied to the education or consultation processes. With few exceptions it would be possible to array the large and growing body of research in all the fields included in the business administration curriculum and state categorically that should also be studied with regard to entrepreneurship

and small business: marketing, finance, management, organization behavior, production, operations research, personnel, accounting, taxes, law, advertising. There is little or nothing available within any of the foregoing areas focused specifically on small business.

The Baylor conferees called for specific research efforts including the following:

- Longitudinal studies. There were several calls for longitudinal studies. Brockhaus stated the need for comprehensive, comparative longitudinal studies including information on business owner characteristics, enterprise characteristics, external conditions with a view to determining factors associated with entrepreneurial decisions. Timmons recommended longitudinal research to track start-ups over time. Scholhammer called for longitudinal studies that would analyze the effectiveness of various internal entrepreneurial strategies

- Factors affecting the expression of entrepreneurship: Psychological/behavioral characteristics (Hornaday, Brockhaus, Gasse, Timmons); Environmental factors such as legislation, education, economic, social (Shapero, Harwood, Timmons, Kierulff, Wetzel, Pennings, Bruno & Tybejee); Founder teams (Timmons)

- Success and failure: Life cycles of new ventures (Knight, Brophy, Timmons); Failures (Hornaday, Longnecker); Factors such as regulation, capital availability, social, economic affecting success and failure (Timmons, Kierulff, Wetzel, Brophy)

- Entrepreneur and small business owner responses to the environment: Strategies and forms of planning and decision making (Brophy, Krasner, Bruno & Tybejee)

- Effects of entrepreneurship: Economic and social (Timmons, Kent, Broehl, Kirzner, Krasner)

- Cross comparative studies by industry, by region, by economic conditions (Brockhaus, Bruno & Tybejee, Kierulff)

- Small business characteristics and performance: Need for data on non-industrial sectors (Knight, Hornaday, Shapero); The small business owner (Hornaday, Timmons, Brophy)

- Capital: (Timmons, Wetzel, Brophy)

- Other forms of entrepreneurship: Intra-organizational (Scholhammer, Shils); Governmental (Kent).

POLICY OPTIONS

It is important to explicity identify three criteria used to judge policies and policy options as being more or less relevant and/or good. Too often discussions of policy leave the author's criteria implicit, and thus, make it more difficult for readers to fully understand what is suggested.

In this section policy options are suggested, and recommendations as well as criticisms are specified from a viewpoint that combines a deep respect for the empirical evidence at hand and a healthy regard for what is "useful." To the authors, useful policies are a happy mix of what is desirable and what is feasible in terms of nature (the data) and of an increasingly resource-limited government environment. In our opinion, useful policies are those designed to:

a. Achieve desired objectives through existing institutions and processes to the greatest extent possible, thereby minimizing the creation of new institutions with the attendant political, social and economic problems.

b. Take advantage of existing perceived needs and trends, particularly as they affect the involved institutions, thus minimizing intrusive interventions and their attendant problems and costs.

c. Build upon experience gained from the implementation of past policies and policy options.

d. Build upon relevant empirical evidence from the widest range of relevant research.

e. Reflect a particularly American constraint on policy that favors egalitarianism and the widest distribution of public benefits.

f. Recognize the very great regional and cultural diversity within the country and make provision for targeting and tailoring actions to match and take advantage of a

diversity of institutions rather than insisting on uniformity.[3]

A number of exemplar policy options are described below. They are exemplar in that they are used here to suggest the kinds of policy options that meet the criteria for policy options specified above. Further, they are a pragmatic application of, and thus flesh out, the policies for entrepreneurship education implicit in the Baylor Conference proceedings.

Exemplar Policy Options: The University

All of the following policy options relate to university activities which, as previously noted, we believe should be the focus of initial attention. In order to achieve the most profound and lasting effects via entrepreneurship education at the university level, it is necessary to affect the perceptions, understandings and behavior of education, business administration and engineering faculties. Although other faculties influence the overall perception of entrepreneurship's value, education, business administration and engineering have the greatest impact on entrepreneurial decision making. It is worth noting again that the education faculty influence all segments of education before students leave the university system and when they return for continuing education. Business administration graduates are consciously committed to careers in the world of business and engineering graduates have the potential to generate innovations which will provide major impetus to economic development and productivity.

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[3] There is no contradiction between criteria e and f above. Criterion e says that benefits should be spread as widely as possible. Criterion f says that the application of benefits should be tailored rather than uniform, recognizing the real diversity that exists.

The perceptions and behaviors of academic faculty members are, of course, molded by the value and reward systems of universities as well as by acquired knowledge. Thus, policy options that impact on the faculty value and reward systems, thereby affecting the ability of individual faculty members to achieve rewards of high value within the system, have the greatest potential for improving entrepreneurship education. Rewards for faculty members--in terms of promotion, pay and job offers--are a direct function of research and consequent publication resulting in recognition by professional peers. Thus, policy options providing a means to conduct academically acceptable research in a particular academic discipline coupled with policy options supporting the infrastructure necessary to bring research results to the attention of peers provide the most direct means for strongly, and persistently influencing faculty interest and outlook. That is, by using the existing system, it should be possible to increase the academic respectability of the entrepreneurship discipline, increase the number and quality of faculty in that discipline and increase the number and quality of students who will engage in entrepreneurial activities. Furthermore, by focusing faculty attention on entrepreneurship within the normal academic context, it is possible to implant the basis for entrepreneurship education at the core of academic activity rather than at the fringes.

The policy options which we believe meet the foregoing criteria are:

- Providing research support
- Providing fellowships for doctoral and postdoctoral students
- Providing systematic support for professional society activities, journals and special awards for entrepreneurial research (i.e., improving the reward system)

- Developing a research and education clearinghouse
- Increasing small business consulting
- Creating visiting or "circuit-riding" consultancies
- Providing improved continuing education.

Research Support. Research on entrepreneurship and small business has never experienced the continuity that would generate a body of knowledge, academic interest and refereed journals that denote the academic infrastructure and result in rewards that fit within the values of the academic world. Furthermore, since entrepreneurship and the study of small business cut across what are now considered traditional disciplinary boundaries (even in the colleges of business administration) the lack of continuity in research support and interest have made it even more difficult to establish an academically acceptable field. The Baylor Conference bears witness to this interdisciplinary status by including experts in economics, psychology, sociology, history, anthropology, finance, as well as other inter-disciplinary interests such as innovation.

> ...."entrepreneurship" is a label for a profound and pervasive human activity of interest to very many disciplines, but not possibly encompassed by any one of them. The academic disciplines are accidents of history, and each is bounded and consequently Procrustean. Discipline-centered approaches to the subject of entrepreneurship almost always define away parts of the subject or over-simplify it to fit existing theoretical structures.... (Shapero)

Funding for research on entrepreneurship and small business has received limited and fitful support from changing sources, and consequently there is no tradition of, or experience with, research support for the field. An early period in research was marked by the existence of a Center for Entrepreneurial History at Harvard which drew upon economists

and historians. There was a brief period of interest and support growing out of the programs for aid to developing countries in the post-World War II period which generated studies of the role of entrepreneurship in economic development in underdeveloped countries; this support resulted in studies of entrepreneurship in Pakistan, Nigeria, Liberia, Colombia, etc. The most apparently relevant source of research funding, the Small Business Administration, has been a sometime supporter of research on small business, depending on the particular interests of individuals staffing the organization. The first consistent and continuous effort by the SBA -- that could be said to be based on a comprehensive view of the field and its needs -- is of recent origin and coincides with the creation of the Office of Advocacy. This new period of support is now meeting its first test, with the change in federal administration, which will determine if such support has become a fundamental part of the Agency's program or if it will be one more short, fitful period of support.

It is important that a program of research on entrepreneurship and small business be established that provides continuous support for the field. Continuity is far more important than the total amounts of monies allocated. In fact, there is a good argument to be advanced that a large number of small research grants, within a cohesive and comprehensive framework, can be far more effective in developing the field as well as creating the academic focus that is the subject of this paper. An effective policy for research would provide a continuing flow of small research grants to a variety of researchers and universities in order to develop a wide, broadly-based interest in the subject with a consequent higher probability of overcoming the fitfulness of research interest to date.

It is recommended that no consideration be given to the creation or support of university centers (e.g., bureaus, institutes, laboratories) for carrying out policy options in entrepreneurship research. Policy options that result in the formation or maintenance of such centers, with few exceptions, do not accomplish their purpose. There are over 5,000 centers operational in U.S. universities that draw their support from the federal government, state governments, private foundations, industrial companies and groups and non-profit organizations (Ikenberry and Friedman, 1972). Almost all were organized to apply academic research to the problems of society and industry. However, they almost invariably develop a life of their own, a permanent staff, a diminishing contact with faculty and students (typically the director is a well-known academic, a few students are hired, together with part-time labor, and an occasional summer session professor).

Centers are essentially at a university and not of a university. They provide welcome funds to the university in terms of overhead and some direct charges. For example, the University of California has been receiving $3.5 million annually to administer two nuclear weapons facilities at Livermore (forty miles from Berkeley) and Los Alamos in New Mexico. Centers also affect the structure of the university by increasing the need for administrative bureaucracies and two-track personnel systems, and they generate disruptive cash flow problems for universities when there are uncontrollable shifts in government funding. The essential failure of centers is that they are not geared to the department/ discipline structure and normal reward system of the universities.

Fellowships for Doctoral and Postdoctoral Students. A major program for Ph.D. and post-doctoral education focusing on entrepreneurship and

funded by the federal government could make a major contribution to eliciting faculty and graduate student interest in the field while producing relevant research. Fellowships can develop a constituency of graduate students and faculty cost-effectively by taking advantage of the "natural" structure of the university system (i.e., interest in the subject would be a natural outgrowth from the traditional academic research and education process). Fellowships fit within the university department/discipline structure, value system and reward system, and they result in the "production" of Ph.D.'s, publishable research and faculty teaching credits. Even more important from the viewpoint of the university, a fellowship program provides a means for maintaining Ph.D. programs now threatened by cuts in funding from traditional sources.

Historically, public and private doctoral and postdoctoral programs have had significant effects on university graduate school capabilities and research output. A study of the 1,359 National Research Fellows between 1919 and 1949 found that 65 had been elected to the National Academy of Sciences and three had won Nobel prizes. Fellowships hold the promise of upgrading the quality of research on entrepreneurship as well as the way in which the field is perceived within the academic community. Many models of federal support of doctoral and postdoctoral fellowships are available, and can be used to design an effective program of fellowships for entrepreneurship.

Systematic Support for Professional Society Activities, Journals and Special Awards for Entrepreneurship Research. A program for continuous and comprehensive support of the infrastructure providing research output and consequent recognition leading to rewards (i.e., faculty promotions

and pay increases) within the faculty value system will motivate and reinforce faculty interests and efforts. Though SBA has supported some activities of this kind, there has not been a conscious, sustained, comprehensive effort that has marked support for physical science research, for example, provided by several other Federal agencies (e.g., NSF, NASA, DOD) since World War II. A program dedicated to upgrading academic research on entrepreneurship and small business by enhancing appropriate infrastructure elements would support refereed journal(s) in the field. Presently, only the Journal of Small Business Management, which has not yet achieved a level of high quality or status, provides a visible means of support for faculty promotions. Supporting achievement of the following infrastructure elements is recommended:

- Developing a consistent high standard in such journals
- Strengthening any formally expressed interest in the subject matter as in the case of the Entrepreneurship Interest Group in the Academy of Management
- Supporting more conferences
- Supporting awards, prizes and other recognition mechanisms for faculty contributions in the field.

Developing A Research and Education Clearinghouse. A very strong case was made at the Baylor Conference by Hornaday to establish a clearinghouse for research in areas relevant to entrepreneurship. One result of the erratic support and interest in this subject area is that there has been little opportunity to bring together, classify, organize and disseminate what is available. And occasional conferences repeatedly stir up the same expressed need; that is, the need for a more systematic collection and sorting of available materials, an updated listing of ongoing research,

and a repository for educational materials/approaches that are continuously being developed (and reinvented) throughout this country as well as other countries.

A useful policy option would be to designate a university to maintain a clearinghouse and act as a repository. In developing a clearinghouse program, full use should be made of others' experience in the field of entrepreneurship (e.g., the Center for Venture Management in Milwaukee, Michigan State University, Southern Methodist University), none of which has been successful, and by the experience in other fields. Perhaps the effort should be supported at an academic library rather than at a "center."

Expansion of Small Business Consulting Cases by Faculty and Students. Expansion of the current SBA program for management consulting to small business and a sharper focus on its educational — as differentiated from its consulting — values is one means for building upon one successful existing program (USSBA, Small Business Institute Program Evaluation, 1975, Washington, D.C.). This approach lends itself to enhancing and focusing the interest and efforts of both faculty and students on entrepreneurship and small business. For the program to achieve far greater results in terms of education, efforts should be made to ensure that it draws on a wide variety of disciplines (e.g., education, engineering, the various disciplines within colleges of business administration) and a large number of students within each discipline. The latter criterion suggests the program be concentrated in the classroom rather than in a separate center as now tends to be the case.

Create Visiting or 'Circuit-Riding' Consultancies. Consultancy by faculty is one of the most prevalent ways in which university knowledge is applied to mission-oriented problems. Most university scientists, engineers

and business faculty do occasional consulting and some do a great deal of consulting. Consulting is a touchy issue in universities, and is the subject of administrative regulation and criticism. It is a subject that is seldom discussed and relatively unmeasured, yet consultancy probably does much to condition the viewpoints of professors vis-a-vis research and application of knowledge. Today, faculty consultation is predominantly for the government and very large firms in a few industries. Consequently, faculty interest in applications is oriented by the problems personally experienced.

A program establishing visiting or "circuit-riding" consultancies to small firms would serve many purposes related to enhancing entrepreneurship and small business interest in the universities; it would:

- Increase outreach of university developed knowledge in support of smaller firms
- Provide a financial incentive for faculty interaction with small business
- Increase the extent and frequency of faculty interaction with small business within the small business environment which, in turn, will affect faculty perceptions and interests.

Operationally, this program should be funded to the faculty departments in order to place it in the mainstream of faculty activity. Funding to the individual faculty member should be geared to the number of "cases" and to the number of companies he handles. The program would fit well into faculty timing (e.g., summer work) and into the university definition of "service." It could be wholly federally funded or done with matching state or university funds.

Requiring faculty participants to go out and find companies to serve would create the "pull" needed to move what the university has to offer

into the small business arena, and could help overcome one difficulty of current small business programs (SBA and EDA) which wait for problems to be brought to the university. It would be a small-firm equivalent of summer professors in industry that is funded by some of the largest firms.

Continuing Education for Professionals and Small Businessmen. There is a constant need for educational support on the part of new business owners and for those in small business. SBA and local educational institutions throughout the country have always recognized the educational needs of small business, and a large variety of short and long courses are offered of varying depth and quality. However, there is a serious need to develop new educational delivery means that can reach the small business community more effectively.

The development of new communications technologies makes it possible to overcome many of the difficulties encountered to date in delivering educational offerings to small business (i.e., the poor cost/effectiveness of the traditional one-provider/limited-number-of-students classroom methods). For example, videotaped materials loaned by public libraries can provide needed information so that it can be accessed on a "demand-feeding" basis. This approach overcomes one of the greatest obstacles to continuing education: the mismatch between the timing of course offerings and the exigencies of business life.

There is a need for continuing education programs that explore new approaches to reaching the small business community in a way that recognizes the reality of time and educational needs within the small business community. Typically, though continuing education administrators

want to be of use to small business, the imperatives of their organizational and fiscal lives pushes them to concentrate on programs for larger institutions. It is much easier to promote and obtain large company or agency participation in continuing education because a few contacts can fill a course, there are budgets for continuing education, and large institutions can more easily fit their people into someone else's fixed schedules.

Programs for Technical Professionals. The national concern with innovation and high technology suggests the need for a program focusing on entrepreneurial ventures using high technology. One special case of entrepreneurship for technical professionals could be targeted at engineers and scientists in government laboratories scheduled for cutback due to diminished national need. Relevant historical cases include the cutbacks in NASA after the moon landing and the cutbacks experienced by such weapons developers as Sandia and government nuclear laboratories.

Programs for Displaced Women. There is a growing national awareness of the special problems of a large group in the population referred to as "displaced homemakers"; divorced, widowed, and middle-aged women who are affected by what is referred to as "the empty nest syndrome." Displaced homemakers are a large group, and with the high and increasing divorce rate, it is a growing group. Displaced homemakers suffer from both affective and cognitive disadvantages in entering the marketplace for work. Nevertheless, historically, one of the paths taken by such women has been entrepreneurship. There are many examples in U.S. history, dating back to the earliest record of the country, of women starting or inheriting businesses which they subsequently have run successfully.

Despite the historical record and despite recent improvement, women in general, and displaced homemakers in particular, encounter very special problems not encountered by men. The problems include difficulty in obtaining credit, difficulty in dealing with vendors and customers in traditionally male-dominated industries and difficulty in surmounting legal barriers. Even more important, women face special affective/emotional barriers which are culturally induced, such as guilt and feelings of inadequacy.

In our culture the independent businessman is honored as a folk hero and consciously enjoys the role; not so the businesswoman. The woman entrepreneur (and manager) who is married carries a strong feeling of guilt not shared by her male peer. The feeling that she is not doing right by husband and children runs deeply even among those who are successful entrepreneurs and is a compulsive subject for rationalization in almost any interview. The pervasive cultural imprint is stubborn and unforgiving, and society has yet to offer women the equivalent of, "Hush! Dad is resting from his hard day of working for the family."

As with all others, women must be able to see themselves credibly in the role of entrepreneurs. The very lack of examples (role models), people to speak to, and the negative image portrayed of women in business ("hard as nails, unfeminine," etc.) acts as a powerful deterrent to entrepreneurship on the part of women. There is a particular need for new educational materials and programs to be developed with special emphasis on the problems of women in overcoming the affective barriers to their entry into entrepreneurship.

Programs for Retirees. Current concerns over the viability of the Social Security System have focused the nation's attention on the serious

problems faced by retirees. Today, there are 23 million Americans identified as retirees, and the demographic structure of the U.S. population indicates that there will be very strong increases in those numbers within the next several years. It is estimated that, "Today every retiree is supported by 3.2 active workers, but the ratio could fall to one by the turn of the century..." (Newsweek, 1 June 1981) and will plunge even further according to present projections. The projections spell out serious problems for the fiscal soundness of the Social Security System, and serious problems for the U.S. economy.

Aside from the problems of the Social Security System and the economy, inflation and increased longevity are seriously squeezing the standard of living of the nation's retirees. It is estimated that at current inflation rates the purchasing power of pension incomes will drop to one-third of its present value within ten years (Newsweek, 1 June 1981). As a consequence of the erosion of purchasing power many retirees have been forced to find means besides their pensions, to maintain themselves. Currently, the federal administration is proposing changes to the regulations governing Social Security to permit larger tax-free earnings for Social Security recipients, and is further proposing changes which will encourage people to remain in the workforce beyond current retirement years.

Many older workers prefer to continue working beyond their nominal retirement age for diverse reasons: desire to remain economically active, desire to maintain a standard of living, desire to be creative and productive, desire to be a social part of the larger work community. For these reasons as well as for national policy reasons related to maintaining and enhancing the country's productive workforce, one useful policy option

would be to elicit entrepreneurial activities from retirees and those about to retire. There is evidence that many retirees have undertaken entrepreneurial ventures successfully upon retirement, and there is even some evidence to suggest that continued productivity enhances and prolongs the life and quality of life of older people.

Educational programs for retirees and those about to retire should be developed and various means of delivering those programs should be undertaken. It seems reasonable to suggest that such programs could be fielded through a variety of educational delivery systems: continuing education at both the high school and university level, special programs for union members, special programs in the context of company and government agency personnel efforts. Programs for retirees should be designed to emphasize the positive on possibilities of entrepreneurship by providing data about and personal contacts with older entrepreneurs. Much anecdotal evidence on older entrepreneurs exists which could be used. For example, at the conference Shapero pointed to entrepreneurs who started companies in their 70s (a solar energy company in Texas and a technical company in France) and to a Zulu entrepreneur who opened a shoe store in South Africa at the age of 102.

Exemplar Policy Options: Secondary and Career Education.

As noted previously, the secondary policy emphasis should be made in the area of secondary education. Policy making for secondary schools is largely in the hands of the states and the state boards of education. A strong effort could be made at the state level to initiate and implement programs designed to achieve the objectives specified earlier in this

document. Some recommended activities for secondary education are described below; it should be noted that many of these may be interpreted and/or implemented as career education at the secondary level and as such could be applied at other levels of education.

Developing Concepts of Entrepreneurship. Rarely are entrepreneurship and small business discussed in the classroom -- even though small business is touted as the "backbone of the American economy." Thus, most students leave high school unaware of the role of entrepreneurs and small business in the community or in the American socio-economic structure.

One long-term objective of entrepreneurship education is to increase the level of awareness of students/teachers in this field, thereby increasing the viability of entrepreneurship as a career option both in the academic and business communities. We believe there are two activities which could be implemented to move toward achieving these objectives in the short-term:

- Summer workshops for students
- An entrepreneurship game for students

Summer workshops focusing on the entrepreneurial process, entrepreneurial activities and the role of entrepreneurship in society could be held on a college campus or in another similar environment. The setting for a workshop of this nature should probably be informal. Attendance could include junior and senior students with a faculty composed of entrepreneurs, professors of entrepreneurship and high school teachers. The structure of the workshop should allow for extensive contact between students and faculty. Some potential topics of discussion are:

- The role of entrepreneurship and small business in the national economy

- The role of entrepreneurs in history
- Characteristics and activities of entrepreneurs
- Planning and implementing a business
- Differences between large and smaller businesses and between managers and entrepreneurs
- Career paths to entrepreneurship
- Entrepreneur's "war stories"
- The differing roles of small and large businesses.

The workshop might also include visits to faculty member's businesses, development of profiles of the faculty by students and spending a day running a small business.

The second activity, an entrepreneurship game, could be used as a term project or as a year-long project. The game would be developed to demonstrate relationships extant in the business community among large business, small business, sole proprietorships, professional organizations, trade associations, government and other groups. It would be interesting if students were assigned to competitive positions within the community. The object of the game would be to maintain a profitable business with the winner receiving an appropriate award/reward at the end of the game.

Developing Role Models in Entrepreneurship. In order for students to develop a better understanding of the role, characteristics and activities of entrepreneurs, two specific activities could be undertaken in the short-term:

- Entrepreneurial case studies for term projects
- Histories of entrepreneurial ventures for term projects.

In order to develop case studies of living entrepreneurs, students could be assigned term projects in English, science or sociology to

interview local entrepreneurs and write case studies. If appropriate, alumni could be recruited to participate in this activity. There are a number of books available (e.g., American Made by Livesay; The Entrepreneurs by Shock; The Innovation Millionaires by Bylinsky) that could be used as models for case studies. At the end of the term, the best case study could be published in the school paper.

As part of a history course, students could be assigned a term project focusing on an important entrepreneur and the development of his venture. A term paper might focus on his life, his contribution to society, the impact of his venture on the economy or any other topic considered important or appropriate by the teacher. The history of entrepreneurs is the subject of few historians; however, Dr. Harold Livesay (SUNY at Binghamton) and Dr. Albro Martin (Harvard University) are both active in this field and would welcome interest in their efforts. Also, Dr. Martin edits a periodical titled: Business History Review, which could be used as source material. The Eleytherian Mills Historical Library in Wilmington, Delaware, is a rich source of material.

The drama club might be persuaded to use the products of either activity as the basis of a play or skit.

These activities would increase students' and teachers' level of awareness and could be a stimulus for students to enter either the academic area or to become entrepreneurs.

Extracurricular Activity. A Future Entrepreneurs Club could be formed at schools. Club members might ask entrepreneurs to speak at meetings and could actually establish a venture designed to generate profit. An "Entrepreneur for a Day" program would offer students the

opportunity to participate in an entrepreneurial venture as a decision maker for a day. The club would be a vehicle for exposing students to entrepreneurial models and bring a realistic perspective to entrepreneurial activities.

Curriculum Development. In the long-term it will be necessary to modify curricula in order to achieve the overall goal. As texts are revised, examples of entrepreneurship can be included. This should be relatively easy in the areas of history, science and English. In the area of mathematics, problems can be posed based on those identified in entrepreneurial firms. The concepts of venture finance, profitability, pricing a product and so forth should make interesting math problems throughout secondary education. In schools where economics and sociology are taught, examples of the impact of entrepreneurs and their ventures can be included in class work.

A National Project. Each year the National Ad Council undertakes a public service project. In the recent past, the economy and free enterprise have been topics of massive advertising campaigns in the public interest. The Ad Council donates the work and could be approached to undertake this project.

Summary. These are some of the ideas which would contribute to establishing the value of entrepreneurship via education. A list of others is contained in Table 1. An effort should be made to determine the nature and extent of current activities at high schools throughout the country, and to develop both curricula and extracurricular activities which can be implemented at the state and local levels with the support of national organizations and federal agencies as appropriate.

TABLE 1

LIST OF ENTREPRENEURSHIP EDUCATION ACTIVITIES FOR SECONDARY SCHOOLS

TEACHER ORIENTED ACTIVITIES

1. Invite entrepreneurs to speak to students as a regular part of course work

2. Invite entrepreneurs to speak at school club meetings (e.g., Future Teachers of America) about the role of the entrepreneurs in the business community and the needs/problems/rewards of entrepreneurship

3. Develop debate club topics around issues in entrepreneurship

4. Develop drama club skits and plays around famous entrepreneurs in history

5. Annual award by State Board of Education for the teacher who was most creative in integrating entrepreneurial topics into school activities

6. Include entrepreneurship topics at local, regional and national meetings of teachers.

CURRICULUM ORIENTED ACTIVITIES

1. Conduct summer and short courses for teachers (e.g., history, economics, English, science) to learn about entrepreneurs and their role in the community and nation. Such courses should be offered for college credit toward an advanced degree and should be counted toward promotion and salary increases

2. Include in all career education curricula

3. Include entrepreneurship in career counseling as well as in standardized career/aptitude testing instruments

4. Revise college level curriculum development courses in specific content areas to include entrepreneurial topics in order to fully integrate information into high school course work

5. Conduct in-service training classes, offered for college credit, on entrepreneurship and entrepreneurs. Attendees could include counselors, history teachers, English teachers, etc. Vocational skills teachers could also be included since many of their students may become sole proprietors or small business owners.

TABLE 1 (Continued)

STUDENT ORIENTED ACTIVITIES

1. Participate in work programs in entrepreneurial firms
2. Develop business plans
3. Write case studies of local, successful entrepreneurs for publication in school or community periodical
4. Conduct an "Entrepreneurs Day," sponsored by local business organizations using alumni and local entrepreneurs as speakers
5. Invite local entrepreneurs to speak to students in classes as well as at school club activities
6. Elect an entrepreneurial "Most Likely" for the school yearbook
7. Include an "Entrepreneurial Corner" in the school newspaper
8. Develop and implement an educational television program focusing on entrepreneurs/entrepreneurship in which students participate.

COMMUNITY ORIENTED ACTIVITIES

1. Local business group(s) make awards to best teacher and student projects in entrepreneurship and/or most profitable entrepreneurial activity
2. Local business organizations (e.g., Rotary, Chamber of Commerce, Kiwanas) invite local entrepreneurs to speak; high school students and teachers who are interested would also be invited
3. Local voluntary organizations (e.g., Scouts, Boys Clubs, Girls Clubs, YMCA, YWCA) invite local entrepreneurs to speak at club meetings and include information on entrepreneurship in club activities
4. PTA/PTO groups undertake entrepreneur oriented projects
5. Newspaper or business club could sponsor an essay contest on an entrepreneurial issue
6. Businessmen participate in a community-wide "Business Day" during which students take the place of businessmen.

APPENDIX A

LIST OF PARTICIPANTS AND TOPICS

CONFERENCE ON RESEARCH AND EDUCATION

FOR ENTREPRENEURSHIP

BAYLOR UNIVERSITY

PARTICIPANTS AND TOPICS

CONFERENCE ON RESEARCH AND EDUCATION FOR ENTREPRENEURSHIP

Baylor University
March 23-25, 1980

	TOPICS	PRESENTERS	DISCUSSANTS
1.	Entrepreneurial History	Hal Livesay, SUNY, Binghamton	Albro Martin, Harvard
2.	Research on Living Entrepreneurs	Jack Hornaday and Bob Ronstadt, Babson	Russ Knight, Western Ontario
3.	Non-academic Literature on Entrepreneurship: An Evaluation	Jim Constantin and Jackie McClung, Oklahoma	Joe Mancuso, Center Entrepreneur Mgmt.
4.	Psychology of Entrepreneurs	Bob Brockhaus, St. Louis	Yvon Gasse, Laval
5.	Sociology of Entrepreneurship	Al Shapero, Ohio State	Ted Harwood, Macon
6.	The Environment for Entrepreneurship	Al Bruno and Tyzoon Tyobjee, Santa Clara	Johannes Pennings, Columbia
7.	Entrepreneurship in Economic Development	Cal Kent, Baylor	Wayne Broehl, Dartmouth
8.	The Role of Entrepreneurs in Innovation	Jay Krasner, Pepperdine	Wayne Brown, Utah Jerry Udell, Oregon
9.	Mechanics and Strategy of Venture Initiation	Jeff Timmons, Northeastern	Herb Kierulff, USC
10.	Venture Finance	Bill Wetzel, New Hampshire	Dave Brophy, Michigan
11.	Entrepreneurship - Small Business Interface	Arnie Cooper Purdue	Justin Longnecker Baylor
12.	Internal Entrepreneurship	Hans Schollhammer UCLA	Ed Shils, and/or Bill Zucker, Wharton
13.	Education for Entrepreneurship	Karl Vesper, Washington	Ken Loucks, Laurentian
14.	Research Methodology on Entrepreneurship	Bob Coffey and Bill Paulin, USC	Rein Peterson, York